

On the systematic position of the Goldfinch, *Carduelis carduelis* (L.) in Rumania

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In 1909, Tschusi described a subspecies of Goldfinch characteristic to Rumania, *Carduelis carduelis rumaeniae*, which, in the author's opinion, is the darkest form of the species. Its validity has been admitted by Hartert (1901–1938) and other ornithologists. R. Dombrowski (1912), in his fundamental work concerning the Rumanian birds, mentions three subspecies of Goldfinch: *C. c. rumaeniae* Tschusi, a breeding bird; *C. c. carduelis* (Linnaeus), a frequent visitor in winter; *C. c. major* Taczanowski, a specimen shot at Cernavoda on 13th February (the year is not indicated). This point of view has been adopted both by D. Lintia in the Rumanian version of Dombrowski's book (1946), and by all the Rumanian ornithologists. On the other side, C. Vaurie (1956), studying four goldfinches from Rumania, found that these birds are not darker than the Scandinavian specimens and he concludes: "Hartert stated that *rumaeniae* required further study, and until then, I believe this name is best considered as a synonym of nominate *carduelis*" (see also Vaurie, 1959).

MATERIAL EXAMINED

From Rumania I examined 44 breeding birds and 49 winter birds. The comparative material from abroad consists of five specimens from Sweden, 10 from Germany, one from Switzerland, seven from Hungary, 16 from Poland, 15 from U.S.S.R., 16 from Yugoslavia and four from Bulgaria (74 in all). The goldfinches from Yugoslavia and Bulgaria belong to the subspecies *C. c. balcanica* Sachtleben, and three specimens from U.S.S.R. (the Crimea) are *C. c. nikolskii* Moltchanov, a subspecies synonymized by Vaurie with *brevirostris* Zarudny.

DISCUSSION

Beginning the research of the available material, I intended to check that the goldfinches from Rumania do not really differ from typical *carduelis*, to prove Vaurie's point of view concerning *rumaeniae*. To my surprise, however, I noted the existence of an important difference between the Rumanian goldfinches and those from central and northern Europe, but in a contrary direction to that stated above. I remarked that the majority of the breeding goldfinches examined by me belong to the subspecies *C. c. balcanica* Sachtleben, known previously only in Crete, Greece, Albania, Yugoslavia and Bulgaria.

Unfortunately, I could not collect goldfinches from all over the country, but I can outline the distribution of the races in the different provinces. The Balcanic subspecies is surely breeding in Dobruja, in Wallachia and in most of Moldavia; in northern Moldavia I found a hybrid population *balcanica* x *carduelis*, as well as typical specimens of *carduelis*. Oltenia is, of course, populated by *balcanica*, and Banat, judging by the two specimens examined by me, has a hybrid population. The situation in Transylvania requires further study, but I can state that at least in the south-eastern part

of this province, *balcanica* is breeding (the single specimen I have from Cluj is a *balcanica*); in the western and north-western part of Transylvania, there is probably a gradual changing towards *carduelis*, existing in Hungary and continuing in the rest of the Continent.

I am sure that *balcanica* is distributed beyond the eastern borders of Rumania, in south Bessarabia. I make the remark that "*nikolskii*" specimens are very similar to the hybrid birds *carduelis* x *balcanica*.

It must be pointed out that the colour difference between *balcanica* and *carduelis* does not lie only in the presence, on the dorsal part, of a paler hue in the case of the first subspecies than in the second, but mostly in the lack of the chestnut hue characterizing the nominate race, this peculiarity being very constant. Indeed, in the material examined, I found relatively dark-coloured specimens of *balcanica*, but the back is pure brown and not chestnut-brown.

The wing sizes of the Balcanic specimens according to my measurement are the following:—Bulgaria: females 76, 76.5; males 80, 80 mm. Yugoslavia: females (5) 75–79 (76.2); males (10) 77–79 (78) mm.

By comparison with the above, the Rumanian population of *balcanica* presents rather higher sizes, quasi-similar to those of the nominate form; in this way the Rumanian *balcanica* gets closer to the nominate race. Thus, the wing length is 76–78 (77.3) mm. in three females and 77–84 (81.5) mm. in 18 males.

The majority of the goldfinches collected in winter belong to the nominate race, which, in this season, frequently appears across all the Rumanian territory. However, there can be found some *balcanica* specimens, a fact which proves that this race is only partially migratory from Rumania.

Finally, some words about the type of *rumaeniae*, now in the Munich Museum. It was collected at Baneasa (this is the correct spelling of the locality indicated by Tschusi and then by other authors, too, with the name of "Baneaso"), near Bucharest, on 15th November, 1908, by R. Dombrowski. It is not a breeding bird, being collected in a month in which the birds belonging to the nominate race have already come to Rumania as winter visitors. From the point of view of the colouring, it is clear that the specimen belongs to the *carduelis typicus*, but it is intensely coloured, mostly on the breast.

Among the specimens examined by me I have not found any belonging to the race *C. c. major* and the specimen cited by Dombrowski is not available to me. Bearing in mind that it is hardly probable for this race to reach south-eastern Europe in winter, I think we must delete it from the check-list of Rumanian birds.

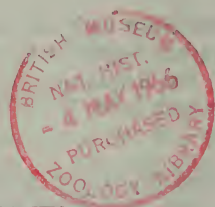
CONCLUSIONS

The subspecies of Goldfinch breeding in the south-eastern half of Rumania is *C. c. balcanica*, replaced in north Moldavia by a hybrid population *carduelis* x *balcanica*, as well as *carduelis typicus*; in the western

part of Transylvania it is probably replaced by the nominate race. In winter come numerous northern specimens of *carduelis*. "*Rumaeniae*" has been described on wintering specimens of *carduelis*, among whose synonyms we can rightly include it. The appearance of *C. c. major* in winter requires further checking.



The distribution (partially presumptive) of the *C. carduelis* races in south-eastern Europe. (a - *carduelis*; b - *balcanica*)



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